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Intellectual Property Treaties and Development

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Introduction

The inclusion of issues of harmonization and enforcement of intellectual property rights (IPRs) in the setting of the Uruguay Round of negotiations was commonly understood to be a balancing act: promoting industrialized country interests in return for greater access by developing countries to markets for their goods and agricultural products. In the multilateral setting of the World Trade Organization (WTO) and more specifically the TRIPS Agreement, this *quid pro quo* approach was hailed as a global breakthrough for IP rights holders. With the TRIPS Council to provide a platform for ensuring TRIPS compliance, and with the WTO Dispute Settlement Understanding in place to resolve differences without trade wars, the future development of intellectual property law seemed set for multilateralism. TRIPS also seemed to be a success for the strategy of shifting forums from the World Intellectual Property Organization (WIPO), where norm-setting had been halted since the 1970's, to the WTO.

However, subsequent developments suggest that the TRIPS Agreement was not as unequivocal a success for industrialized country IP right holders as they would have wished. Issues such as protection for clinical test data, parallel importation, protection of geographical indications, patents on plants and plant genetic resources and especially IP enforcement remained largely unresolved. In addition, the realization by many developing countries that the trade-off between greater market access and greater IP protection may not have worked out in their favor created a backlash to the TRIPS Agreement. Developing countries renewed their historical skepticism towards claims that higher intellectual property standards, established through international treaties, would lead to better development outcomes through innovation and technology transfer. They blocked further harmonization

initiatives at WIPO such as the proposed Substantive Patent Law Treaty[1] and delayed others such as the WIPO Treaty on the Protection of Broadcasting Organizations[2]. They also kept issues such as such as stricter norms on intellectual property enforcement essentially off the WTO agenda. They began instead to seek changes to existing international instruments at the WTO and at WIPO that they believed would make extant norms more favorable to developing countries. At the WTO, this resulted in the Doha Declaration on TRIPS and Public Health[3], and ongoing proposals for disclosure of origin of genetic resources.[4] At WIPO, this included beginning negotiations for treaties on the protection of Traditional Knowledge and Folklore.[5]

As a result of this shift, the WTO and WIPO began to seem like less favorable venues for increasing IP standards and enforcement. In the decade from 2000 to 2010, this resulted in a shift of focus by a number of industrialized countries, which still wanted to achieve higher standards but in bilateral and regional free trade negotiations ("FTAs"), covering trade and investment issues. There was also an accompanying increase in bilateral investment treaty ("BIT") activity. Many developing countries signed BITs and FTAs but the number of these has already begun to decline significantly. This does not necessarily mean a return to multilateral fora but suggests that new *plurilateral* fora, such as the Anti-Counterfeiting Trade Agreement (ACTA)[6], and the current Trans-Pacific Partnership negotiations (TPP) probably represent the next forum shift. This chapter explores the flourishing of bilateralism and plurilateralism against the backdrop of the remaining controversies, flexibilities, and loose ends of the TRIPS Agreement. We look at the ways in which competing narratives about the relationship between innovation, economic development and greater intellectual property protection

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[1] See WIPO "Draft Substantive Patent Law Treaty" Available at: http://www.wipo.int/patent-law/en/draft_splt.htm (last visited 19 February 2014).

[2] See WIPO "Broadcasting Organizations" http://www.wipo.int/copyright/en/activities/broadcast.html (last visited 19 February 2014).

[3"] Declaration on the TRIPS Agreement and Public Health, WT/MIN(01)/DEC/2 (2001)

[4] WTO "Draft decision to enhance mutual supportiveness between the TRIPS agreement and the Convention on Biological Diversity: Communication from Brazil, China, Colombia, Ecuador, India, Indonesia, Peru, Thailand, the ACP group, and the African group" **TN/C/W/59,** 19 April 2011.

[5] WIPO, "Intergovernmental Committee" http://www.wipo.int/tk/en/igc/ (last visited 19 February 2014).

have both pushed and pulled against the pursuit of bilateralism and plurilateralism in the post-TRIPS era.

Part I Investment and Intellectual Property

One of the keys to development, for a developing nation, is the ability to attract investment, both domestic and foreign, in part because technology is becoming a larger component of transactions both within and across countries globally. For example, flows of intangibles such as patents, know-how and other intellectual capital grow larger every year. Between 2005 and 2012, payments for the use of intellectual property rose from approximately 141 Billion USD in 2005 to 213.7 billion USD in 2012, with a peak of 241.5 billion USD in 2011. [7] Investment (foreign and domestic) in a knowledge-based economy is central to any effort seeking to bridge the gap in development between markets in developing nations and markets in developed nations.[8] But what is the role of intellectual property in economic development? Because of their monopolistic nature, many economists approach IPRs with a great deal of caution. One can approach the topic along two different paths. The first is to consider the role that intellectual property plays in enabling domestic innovation and economic growth; the second is to focus instead on the role that intellectual property plays in enabling FDI that transfers technology through formal and informal spill-overs.

Intellectual property and national innovation

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[6] See Änti-Counterfeting Trade Agreement" Available at: http://www.mofa.go.jp/policy/economy/i_property/acta.html (last visited 19 February 2014). Japan is the depositary state. Participants included Australia, Canada, the European Union (EU), Japan, Korea, Mexico, Morocco, New Zealand, Singapore, Switzerland and the United States of America. Australia, Canada, Japan, South Korea, Morocco, New Zealand, Singapore and the United States signed on 1 Oct 2011. The EU and some EU member states signed it on January 26, 2012, but the EU as a whole did not ratify the treaty at the EU level after it was rejected by the European Parliament. 6 instruments of ratification are required for the ACTA to enter into force. (Article 39). After ratification by Japan in October 2012, there have been no further ratifications, and the agreement has yet to enter into force.

[7] World Bank, "Charges for the use of intellectual property, payments (BoP, current US$)" Available at: http://data.worldbank.org/indicator/BM.GSR.ROYL.CD/countries?display=graph (last visited 19 February 2014).

[8] C Braga, K Fink and C Sepulveda, 'Intellectual Property Rights and Economic Development', World Bank Discussion Paper No 412 (World Bank, 2000); see also R Mansell and U When (eds.), *INK—Knowledge Societies: Information Technology for Sustainable Development* (Oxford University Press, 1998).

We begin with the general role that intellectual property plays in encouraging domestic innovation. Free and unrestricted competition lies at the heart of the generally accepted western economic theory—free play of market forces. Free competition between enterprises is thought to be the best means to satisfy supply and demand and to maximize wealth in society as a whole. Central to this proposition is the axiom that market participants can compete on a level playing field so that all competitors face the same market barriers, thus facilitating freedom of entry into the market. From this point of view, legal interference in the market should be kept to a minimum. This does not mean, however, that the policy towards markets should be one of *laissez faire*. There is a compelling argument for *laissez faire* policy insofar as interference in the market brings with it administrative costs that are incurred from the transfer of the costs of competition from one market participant to the other. Therefore, market intervention should result in a clear social benefit, such as the release of more low-priced high quality products for which there is consumer demand. In competitive markets, the process of spreading market information helps to shape the opinions of market participants with regard to profit-making activities,[9] and is seen as socially beneficial. Government intervention to enhance this aspect of competition is thus generally acceptable, even in classical economic theory. This adage gives rise to the premise in neo-classical theory that perfect knowledge will induce a situation where the spontaneous interaction between knowledge possessors will lead to a state of equilibrium and the optimum distribution of resources in society.[10] This means that disturbances in knowledge creation, leading to imperfect knowledge, need to be countered. Therefore, legal interference should aim to provide a level playing field of 'market information' in which perfect knowledge induces perfect competition. Laws on the protection of intellectual property and competition can be seen in this light. Entitlements are allocated to specific creators[11] to safeguard valuable information generated by them against expropriation, so that bargaining for or around the use of such information can come into existence and promote a viable market. With most intellectual and industrial creations, the establishment of a market for ideas is possible only if the value of the idea can be evaluated or at least 'guesstimated' in advance. This generally means revealing that idea to a potential buyer, who will then

[9] F Hayek, 'Economics and Knowledge' in *Individualism and Economic Order* (University of Chicago Press, 1948) 106: '[c]ompetition is essentially a process of the formation of opinion: by spreading information [i]t creates the views people have about what is best and cheapest'.

[10] R Cooter and T Ulen, *Law and Economics* (2nd edn, Addison Wesley, 1997) Chapter 2.

[11] The term creator is used in a broad sense here and includes inventors and innovators independently of the speicifc IP entitlement(s) which may protect their 'creations'.

already have acquired the idea at no cost.[12] Intellectual property will then play a role in controlling certain uses of that disclosed information. In the following pages, we review how this applies to different intellectual property rights.

The role of government intervention through the creation of a right facilitating such a bargaining process (and the related creation of a market) has been demonstrated in the case of copyright. After the creation of the entitlement, the role of the state is essentially complete. This means that the transfer of the entitlement is left to the market, where a voluntary bargain can be made between buyer and seller. This implies that the value of the entitlement is also determined by the market and not by the state, unless the state considers the market to have failed[13] and chooses to impose a compulsory license as a remedial step. This means that the value determination and maximization typically require very little state intervention.[14] This is not altogether surprising. According to the Coase Theorem, the allocations of initial entitlements by the state are unimportant, since they are transferred to their 'highest value use' through private bargaining leaving the total output of the economy unaffected. One system of property rights is no more efficient than another in this view.[15] This means, however, that the transaction costs of the (re)allocation of property rights and the rules governing the exchange determine the efficiency of one system over the other.[16] In addition, the cost effectiveness of a protective regime depends on the social costs that are incurred when protection is afforded in error, and when the likelihood of overprotection by the system is real.

The economic rationale for the patent system[17]-- commonly described as a system of incentives and rewards but perhaps more aptly described as a monopoly that creates a barrier to entry.[18] This is different in some respects from copyright where there is no structural aim to encourage exchanges but

[12] K Arrow, 'Economic Welfare and the Allocation of Resources for Invention' in *The Rate and Direction of Economic Activity Economic and Social Factors* (Princeton University Press, 1962) 609 and 615.

[13"] Market failure is a situation where creators are not rewarded for their creative efforts.

[14] G Calabresi and A Melamed, 'Property Rules, Liability Rules, and Inalienability: One View of the Cathedral', (1972) 85 *Harvard LR* 1089 at 1092 and 1105.

[15] R Coase, 'The Problem of Social Cost' (1960) 3 *J of Law and Economics*, 1.

[16] R Merges, 'Of Property Rules, Coase, and Intellectual Property' (1994) 94 *Columbia LR* 2655 at 2664–7

larger focus on dissemination of the created product. In fact, there is no pressure to disseminate, only facilitation to do so safely. In contrast, the patent system has a structural bias towards disclosure, which is required required in exchange for protection. That disclosure is meant to function as a market signal – that a particular research path or area has been closed off and other economic actors should reallocate their resources and that new knowledge has been made available which can be built on, adapted and used. This forces a licensing practice to evolve and serves two main ends. First, the competitor faces a market barrier, equivalent to that encountered by the first market entrant, thus leveling the playing field. Just like the first market entrant the competitor has to pay for the innovative features of his product or means of production. As a free-rider he would not have faced the same barrier to market entry as the first market entrant and there would be no incentive for a free-rider to be creative. Second, more creators produce a wider variety of works that the public may be willing to pay for. This gives the consumer more choice and facilitates the creation of new markets. Without the protective regime of the patent system, which excludes free-riders, a situation of asymmetric market failure could emerge. This makes it economically more attractive to copy than to create. Why would one spend creative energy and risk failure in the market when existing market success can be copied? The result is that creators may have fewer incentives to produce works than the public would be willing to pay for. The aspect of asymmetry is the situation where one party, the creator, faces a market barrier and the other, a copyist, does not.[19] If a combination of market failure and asymmetry occurs, a pattern emerges that holds true for all forms of intellectual property law.

Just like the patent system, which serves to stimulate disclosure of the invention and thus encourage further development, one of the purposes of the copyright system is to allow for the communication and use of information expressed in a copyright work, either by additions to the public domain or by rights acquisition on a licensing basis.[20] Where a new work relies on previous work and ideas, the new work should not benefit the copyright holder through

[17] E Kaufer, *The Economics of the Patent System* (Harwood Academic Publishers GmbH, 1989) and P Heald, 'Federal Intellectual Property Law and the Economics of Preemption' (1991) 76 *Iowa LR*, 962–65.

[18] H Demsetz, 'Barriers to Entry' (1982) 72 *American Economic R*, 47: '[t]he problem of defining ownership is precisely that of creating properly scaled legal barriers to entry'.

[19] For a definition of asymmetric market failure and the role of intellectual property law in providing a remedy against the resulting loss in wealth see W Gordon, 'Asymmetric Market Failure and Prisoners Dilemma in Intellectual Property' (1992) 17 *University of Dayton LR*, 853.

monopoly rents in excess of the value the new work has added to total welfare.[21] It would be wasteful competition[22] to gain benefits on the basis of the value of the underlying work, which often consists of contributions by others that may already be in the public domain, or never have been susceptible to copyright.[23] If there are many potential users of the work, it may become too costly to negotiate individual licences for every use that is made of it. This is especially true when works have become *de facto* industry standards, which may be the case in database, software,[24] and ICT industries, where appropriate pricing according to "Fair Reasonable and Non-Discriminatory" (FRAND) terms turns out to be difficult. In such cases, patent control of a standard imposes an absolute barrier to participation in the market where the patent holder refuses to license or will only license on terms that make reasonable competition impossible or unlikely to occur at the level of the product category. Examples include the series of cases in Europe relating to the Orange Book Standard for rewritable optical disk media[25] and the intervention by the European Commission in the series of licensing disputes between Apple and Samsung.[26]

The trademark system displays different characteristics, in that it was not envisaged as a system of incentives and rewards, but as a regulation of

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[20] For a representation of traditional patent and copyright protection and the varying level of creativity required, see E Mackay, 'Legal Hybrids: Beyond Property and Monopoly?' (1994) 94 *Columbia LR*, 2630.

[21] W Landes and R Posner, 'An Economic Analysis of Copyright Law' (1989) 18 *J of Economic Studies* 325, 347–353, offer the economic rationale for not protecting ideas.

[22] S Besen and L Raskind, 'An Introduction to the Law and Economics of Intellectual Property' (1991) *J of Economic Perspectives* 3, 5.

[23] F Warren-Boulton, K Baseman and G Woroch, 'The Economics of Intellectual Property Protection for Software: The Proper Role for Copyright' (1995) 3 *Standard View*, 68–78.

[24] See US v Microsoft 97 F Supp 2d 59 (JS App 253–279). The findings of fact of the District Court are reported at 84 F Supp 2d 9 (JS App 46–246). The conclusions of law of the District Court are reported at 87 F Supp 2d 30 (JS App 1–43). The final judgment of the District Court is reported at 97 F. Supp. 2d 59 (J.S. App. 253-279). The order of the District Court certifying the case under the Expediting Act is found at JS App 284–285, 20 June 2000. The settlement information and final (modified) judgment of 7 September 2006, are available at http://www.usdoj.gov/atr/cases/ms_index.htm>.

[25] See *Orange-Book-Standard* (BGH, 5/6/2009 – KZR 39/06) [German Federal Supreme Court];

marketing efforts.[27] As an identifier of products and their sources, a trademark performs the role of a communicator, a messenger that spreads information about what is best, the level and consistency of quality, and what is cheapest. Protection of trademarks ensures that the consumer can make correct purchasing decisions,[28] thus lowering the transaction costs.[29] The 'confusion rationale' is also expressed in the doctrine of passing off, where it also serves to prevent the consumer from incurring increased transaction costs by seeking to minimize a consumer's potential for confusion, guaranteeing to the marketer that his or her message is heard without interference.

Protection of trade secrets is underpinned again by the notion of incentives and rewards, but may be located in the realm of unfair competition law.[30] As an item of sensitive information, a trade secret may have commercial value and may attract the interest of competitors. Here lies one of the major differences from the fixed costs associated with obtaining a patent, in that the value of the trade secret and the costs that have to be incurred in order to protect it are directly related to the willingness of another to try to steal it. The parties do not bargain themselves, nor are they able to, since one of the parties intends to keep the asset secret. A regime that protects trade secrets, therefore, veers towards a 'liability-rule-based system' in which the transfer of an entitlement is protected and its value determined by the state. In the patent system, independent invention, reverse engineering and public disclosure do

[26] European Commission Press release "Antitrust: Commission opens proceedings against Samsung" Available at: http://europa.eu/rapid/press-release_IP-12-89_en.htm?locale=en (last visited 19 February 2014).

[27] W Cornish and J Phillips, 'The Economic Function of Trademarks: An Analysis With Special Reference to Developing Countries' (1982) 13 *Int'l R of Industrial Property and Copyright Law*, 41; N Economides, 'The Economics of Trademarks' (1988) 78 *Trade Mark Reporter*, 523; W Landes and R Posner, 'Trademark Law: an Economic Perspective' (1987) 30 *J of Law and Economics*, 265.

[28] According to S Diamond, 'The Public Interest and the Trademark System' (1980) 62 *J of the Patent Office Soc*, 529, the consumer is the 'unnamed third party in every action for trademark infringement, since the interest of the consumer lies in the ability of the trademark to facilitate choice on the basis that a trademark guarantees uniformity of quality at a consistent level'.

[29] G Akerlof, 'The Market for "Lemons", Quality Uncertainty and the Market Mechanism' (1970) *Q J of Economics*, 488, demonstrated that this also applies to the quality function of the trademark. In his work he succinctly describes the market breakdown that occurs when the consumer can no longer trust the quality message a mark convers.

[30] Besen and Raskind, note 17 above, 23–4.

not detract from the proprietary right in the patent,[31] but in the case of trade secrets they do. Someone who sets out to uncover and apply another's trade secret may bring about social gain by increasing competition, but equally he may reduce the incentive to invent by inducing asymmetric market failure.[32] Trade secrecy protection serves to reduce the social costs that comprise expenditures for protection of trade secrets on one hand, and the cost of 'not investing resources designed to effect a transfer of wealth' on the other.[33] In balancing those costs associated with the upkeep of a protective regime and the costs associated with the absence of a market structure that facilitates bargaining and sale of information, trade secrecy protection is limited to tortious interference with an entitlement that is not absolute in nature. An inventor relying on a trade secret cannot prevent the application of independent research and, if the resulting invention is patentable, he cannot even prevent a second market entrant from patenting the invention and forcing the original inventor out of the market. In the first instance, all market entrants face the same market barriers. This places reverse engineering, for example, in a peculiar position as it is not a method of independent research and may be considered theft. Friedman, Landes and Posner advance two reasons against liability for reverse engineering, namely the administrative cost associated with proof that independent research did not take place and the public disclosure argument.[34] The line between piracy and acceptable reverse engineering often lies in the presence of substantial investment and innovation. This means that reverse engineering does not create a monopolistic barrier to entry and the investment and innovation associated with it do not induce asymmetry in the market, since all market entrants face similar market barriers.

Seen from these economic perspectives of intellectual property, the grant of private rights serves to create a market for intangibles that would otherwise be common goods, and the enforcement of IPRs serves to safeguard not only the investment in innovation, but the prevention of market failure, by erecting the same barriers to market entry for all competitors.

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[31] Provided that the entitlement is enforced by the state.

[32] D Friedman, W Landes and R Posner, 'Some Economics of Trade Secret Law' (1991) *J of Economic Perspectives*, 69–70.

[33] W Landes and R Posner, *The Economic Structure of Tort Law* (Harvard University Press, 1987) Chapter 6.

[34] Note 26 above, 70.

Private rights here are properly understood as entitlements which, although granted by the state (in the case of patents and copyright in utilitarian approach countries) or recognized by the state (in the case of copyright in natural rights approach countries); are nevertheless exercised by private individuals for their own personal benefit. That the aim of such a grant or recognition has the public welfare aim to ensure the production or distribution of goods that would not otherwise exist (sometime characterized as public goods), does not detract from the private nature of the exercise of those rights. This is not the same as saying that thus a private “property’ right is established, except in the most tangential sense. This explains why concerns relating to over-protection are far more prevalent in the arena of intellectual property, and the extent to which private actors may make private claims relating to their exclusive rights, are limited by the instrumental and welfare goals that initiated the grant of the rights in the first place.[35]

Nevertheless, exclusive rights (sometime property-like in nature) in intangibles facilitate trade in them, usually with the transfer of the underlying technology as a result. Without an effective IP system, innovators may shy away from investment and technology transfer, especially when piracy rates are high and the enforcement of rights is weak. Therefore, it would seem that it would be wise for a developing country to invest in protection and enforcement of intellectual property. However, although the TRIPS Agreement provides the international framework for IP protection and enforcement, it is not clear that it has served to actually provide the kind of economic development envisioned by classical economic justifications for protecting intellectual property. The question arises because of the need to differentiate between the existence of protection versus calibrating the appropriate level of protection. The question that has come to the fore is whether the TRIPS Agreement is calibrated at too high a level of protection for most developing countries.

Generally, there is little evidence that many countries moved up the technology value chain with an initially high set of intellectually property standards.[36] Whether and to what extent the TRIPS Agreement limits the ability to move up the value chain is both an empirical and a legal question.

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[35] For a thorough examination of the limits and uses of private remedies and their implications for the ‘property-like’ and private nature of intellectual property law see: Lemley, Mark A., Taking the Regulatory Nature of IP Seriously (January 31, 2014). Stanford Law and Economics Olin Working Paper No. 455. Available at SSRN: http://ssrn.com/abstract=2388850 (Last visited 19 February 2014).

[36]" See p290, Maskus, Keith E. and Jerome H. Reichman, "The Globalization of Private Knowledge Goods and the Privatization of Global Public Goods" 7 Journal of International Economic Law 279 (2004).

For the moment, there are no studies that point to either a positive or negative effect on growth from being TRIPS-compliant, although, as will be discussed below, there appear to be FDI effects. As Maskus points out, some of the concerns about the negative effects on access to technology may be addressed by noting that patenting tends not to occur in low-income and lower middle income countries[37], except in specific sectors such as health and agriculture, primarily due to their lack of imitative capacity and small market size. In addition, even where technologies may be patented there may be several alternatives on the market, ameliorating the pricing power that a patent holder would have. Nevertheless, it is difficult to draw any conclusions for whether the effects on welfare (or sustainable development) are positive or negative[38], except perhaps in very specific circumstances in specific sectors.

Theoretically, at least, the economic literature points to significant short term static costs to the increase of intellectual property protection[39], leading to an increased outflow of royalties and fees. There are of course dynamic effects, but in an open economy, it is not clear whether those effects would be of a scale to off-set the static costs.[40] In specific sectors such as health, there is some mixed evidence that there may be an increase in the static costs, without necessarily being accompanied by a lowering of the dynamic costs of patent protection.[41] The example of India suggests that increased patent protection for pharmaceuticals did not drive increased innovation in medicines

[37] See p28, Maskus, Keith E. "Encouraging International Technology Transfer" ICTSD Issue Paper No. 7, May 2004. Available at: www.iprsonline.org/unctadictsd/docs/CS_Maskus.pdf (last visited 19 February 2014).

[38] See p21, Fink, Carsten and Carlos Primo Braga, "How Stronger protection of Intellectual Property Rights affects Trade" in Maskus, Keith & Carsten Fink (eds.) *Intellectual Property and Development: Lessons from Recent Economic Research* (Washington D.C.: World Bank, 2005).

[39] See p285, Maskus, Keith E. and Jerome H. Reichman, "The Globalization of Private Knowledge Goods and the Privatization of Global Public Goods" 7 Journal of International Economic Law 279 (2004).

[40] p22, Fink, Carsten and Carlos Primo Braga, "How Stronger protection of Intellectual Property Rights affects Trade" in Maskus, Keith & Carsten Fink (eds.) *Intellectual Property and Development: Lessons from Recent Economic Research* (Washington D.C.: World Bank, 2005).

[41] p208, Ganslandt, Mattias et. al. "Developing and Distributing Medicines to Poor Countries: the DEFEND Proposal" in Maskus, Keith & Carsten Fink (eds.) *Intellectual Property and Development: Lessons from Recent Economic Research* (Washington D.C.: World Bank, 2005).

relevant to the majority of the Indian population but resulted in an increased focus on medicines and diseases with markets in industrialized countries.[42] This suggests few dynamic benefits from increased patent protection. On the other hand, the WHO Commission on Intellectual Property Rights, Innovation and Public Health found that, in the period to 2006, prices for anti-retroviral medicines were lowered dramatically.[43] The Commission attributed this to increased generic competition, the TRIPS transition period and pressure on pharmaceutical companies from NGO's and other actors. However, it should be noted that increased use of price differentiation and agreements preventing parallel trade may also have played a significant part in the lowering of prices. As Fink and Maskus[44] point out, until more data on the demand and price elasticities for technologies and technological products is available, modeling the impact of higher intellectual property in developing countries will be difficult, if not unreliable.

The level of innovation in a country, a key development indicator, is often measured against the number of patent applications and grants. According to WIPO:

> Patent statistics are increasingly recognized as useful indicators of inventive activity and of technology flows. Patents are a unique information resource because they contain very detailed, publicly available information about inventions which can be matched with other indicators to provide insight into the evolution of technology . . . [T]he use of the patent system remains highly concentrated with only five patent offices accounting for the overwhelming majority of all patent applications in 2012: United States of America (23.1%), Japan (14.6%), Republic of Korea (8%), China (27.8) and the European Patent Office (8%).[45]

[42] p85, Commission on Intellectual Property Rights, Innovation and Public Health "Public health, innovation and intellectual property rights: report of the Commission on Intellectual Property Rights, Innovation and Public Health" Geneva: WHO (2006). Available at: http://www.who.int/intellectualproperty/documents/thereport/ENPublicHealthReport.pdf (last visited 19 February 2014).

[43] *Id.*

[44] p12, Fink, Carsten and Keith Maskus "Why we study Intellectual Property Rights and what we have learned" in Maskus, Keith & Carsten Fink (eds.) *Intellectual Property and Development: Lessons from Recent Economic Research* (Washington D.C.: World Bank, 2005).

[45] See p6 WIPO *World Intellectual Property Indicators* (WIPO: Geneva 2013), available at

Still, it is no longer self-evident that more patents equate to more innovation. In fact a report prepared for the Council on Foreign Relations, an influential and independent, non-partisan foreign policy membership organization and think tank on foreign policy and America's role in the world, called for a reform of the US patent system, noting a marked increase in the number of US patents, and stating:

> [t]his increase in patents, however, does not necessarily correspond to an increase in innovation. Available evidence does not support the view that enhanced patent protection necessarily stimulates more innovation. For example, surveys of technology officers reveal that, except in pharmaceuticals, biotechnology, and some forms of machinery, inventing firms do not view patents as significant reasons to invest in technology.[46]

This was one of the impetuses for the 2011 Leahy Smith America Invents Act[47] which provided for post-grant opposition, a first-to-file system and significant changes to standards on novelty intended to weed out low quality patents.

Thus while TRIPS may be associated with increased patenting in developing countries, this is not necessarily an indicator of increased domestic innovation in those countries. Patents have multiple uses, including as useful barriers to market entry against potential competitors. The growth in patenting in China, where much of the post-TRIPS growth has occurred[48] can at least be partially explained by this phenomenon. More than the existence of patents, it may be access to the information and know how related to those patents that is most crucial to development. The ability to absorb knowledge and human capital drives the capacity to innovate.

Past economic fiascos may even prove to be beneficial for developing countries in this respect. For example, when the 'dot-com bubble' burst in

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http://www.wipo.int/export/sites/www/freepublications/en/intproperty/941/wipo_pub_941_2013.pdf (Last visited 19 February 2014)

[46] Maskus, note 35 above, 15–16

[47] Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011)

[48] See p6, WIPO *World Intellectual Property Indicators* (WIPO: Geneva 2013)

2001, massive investments, made during the 1990s, in high-speed networks spanning the globe were written off. Simultaneously, thousands of IT workers that had been attracted from all over the world to work in the once-overheating Western economies were laid off. A succinct example of capitalizing on opportunities of technology transfer can be found in India, where inexpensive access to the web and returning trained human capital helped to propel India into the position of outsourcing haven for Western industry, further spawning Bangalore's version of Silicon Valley.[49] Sharing information and absorbing knowledge, rather than proprietizing intellectual effort, appears to have been key to India's economic development. The irony is that the dot-com's business model relies on bringing about network effects by giving products away to build market share. In such a scheme, profit must be realized later, essentially through brand awareness and additional higher end services that are not free of charge. In Silicon Valley, the dot-com survivors took the whole of the available market while others perished. Bangalore, on the other hand, was not really a survivor, but an heir to the dot-com legacy. This example shows that the capacity to absorb technology and human capital, rather than the intellectual property system in and by itself, is the key to economic development. Therefore, in order for people to absorb science, technology and research, they need to be educated. Developing countries without a trained population will not be able to participate optimally in the global knowledge economy. A set of firms with internal imitative, adaptive and R&D capacity is crucial to creating domestic momentum for innovation[50] rather than simply increasing patent protection. In fact, increased patent protection may pose a barrier to those very firms with the capacity to imitate.

The effects on second mover firms and countries are not just limited to the patent arena. A report on access to knowledge by Consumers International's Asia Pacific Office points to the negative effects, brought about by heightened standards in copyright protection and enforcement in developing countries. Implementation of TRIPS Agreement obligations, in particular, appears to act as a barrier to accessing books, journals and

[49] See T Friedman, *The World is Flat* (2nd edn Farrar, Straus and Giroux, 2006), in which he describes how in a triple convergence the combination of the PC with the microprocessor, internet, and fiber optics enabled citizens to interact, collaborate, access information and innovate globally, giving rise to a global community. On the issue of India's transformation from socialism to global trade, see pp. 214–224 and 561: 'India only twenty years ago, before triple convergence, was known as a country of snake charmers, poor people, and Mother Teresa. Today its image has been recalibrated. Now it is also seen as a country of brainy people and computer wizards.'

[50] For an extended discussion on enabling such learning through firm clustering, see Daniel Gervais' piece in this book.

teaching materials. In fact the price of books has increased upon implementation to the extent that many materials are no longer accessible. According to the report:

> [t]he Berne Convention (1886) . . . specified limitations and exceptions to the rights it conferred. These limitations and exceptions were further expanded in the Appendix (1971) due to representations made by developing countries. . . . The TRIPS Agreement (1995) altered the balance . . . and extended copyright protection in terms of scope and varied the limitations and exceptions to the rights provided to copyright owners. Developed countries have used their influence at the WIPO and through bilateral and regional trade agreements to further enhance copyright protection. The space available to developing countries to adopt policy options suited to their development needs [has] consequently in each instrument been reduced.[51]

This fact is even more perverse in view of the advice contained in the European Commission DG Internal Market study on copyright for the knowledge economy, wherein flexibility in limitations and exceptions is deemed essential for consumers and users of copyright works in dynamic information markets.[52] Now that developed economies have started to recognize that strengthening intellectual property, without providing for robust limitations and exceptions to these rights, may be too much of a good thing, it is of the utmost importance to make sure that developing trading partners are not encouraged or even forced to adopt a complex array of legal regimes that might widen the knowledge divide and decrease their ability to participate in a global knowledge economy which is rapidly absorbing more investment than physical assets do. However, even where higher intellectual property may not necessarily be conducive to innovation in developing countries, there may nevertheless be a strong argument that such standards encourage foreign direct investment and increase the likelihood of licensing, thus contributing to development and technology transfer. The next section addresses the evidence for this proposition.

[51"] Consumers International, note 4 above, 39.

[52] *The Recasting of Copyright & Related Rights for the Knowledge Economy* (IVIR, 2006), available at http://ec.europa.eu/internal_market/copyright/docs/studies/etd2005imd195recast_report_2006.pdf(last visited 19 February 2014). p III: 'EC legislature should strive to establish a more flexible and forward looking regime of limitations on copyright and related rights. A non-exhaustive list of limitations would allow Member States to respond more quickly than the EC legislature to urgent situations that will arise in the dynamic information market.'

Intellectual property, FDI and cross-border licensing

There exists a tension between policies aimed at encouraging foreign firms to export, or establish themselves in your market so that needed goods and services can be produced and sold, and those aimed at ensuring sufficient spillovers in terms of skills, know-how, information and technology to enable domestic producers to move up the value chain themselves and perhaps even compete in the same market. Maskus identities various channels for spillovers to occur such as: uncompensated imitation; departure of employees to competitors; access to patent data. He also points to spillovers that are best described as efficiency savings arising from the effect that FDI can have on the behaviour of local suppliers and competitors.[53] These include the demonstration effect of use of new technologies in providing a competitive advantage, especially those that are relatively easily observable; the efficiency (cost or otherwise) of new inputs from the FDI actor for downstream producers; the efficiency and learning for suppliers of inputs to the FDI actor, provided that the actor uses local suppliers; departure and exchange of employees across firms.

While these ideas make sense from an economic analysis perspective, it is important that we do not take these effects as a given for most forms of FDI. Where FDI operates in an enclave and is primarily in export oriented businesses, there is a low likelihood of natural spillovers. [54] In addition, to the extent that foreign firms engage in anti-competitive practices, spillovers are also unduly limited. Finally it the regulatory structure around the protection of intellectual property that determines the nature and scale of both formal and informal spillovers. What kind and what level of IP protection is optimal to ensure technology transfer through FDI?

[53] p14, Maskus, Keith E. “Encouraging International Technology Transfer” ICTSD Issue Paper No. 7, May 2004. Available at: www.iprsonline.org/unctadictsd/docs/CS_Maskus.pdf (last visited 19 February 2014).

[54] p68, Maskus, Keith “The Role of Intellectual Property Rights in Encouraging Foreign Direct Investment and Technology Transfer” in Maskus, Keith & Carsten Fink (eds.) *Intellectual Property and Development: Lessons from Recent Economic Research* (Washington D.C.: World Bank, 2005).

The proliferation of bilateral investment treaties aimed especially at restricting requirements for local content[55], or technology transfer, [56] for example, may also have made it much more difficult for learning by local suppliers to take place. This also includes measures that limit regulation of strict non-disclosure and non-compete agreements with employees, to prevent them taking information, especially trade secrets, with them to other employers.

It may be inappropriate to treat FDI as synonymous with technology transfer[57], where the natural effects of FDI are blocked by specifically designed regulatory mechanisms. In addition, there may be a natural bias against such spillovers, given that some economic models find that the most profitable or successful affiliates are those that are most effective at preventing spillovers of proprietary and non-proprietary knowledge.[58]

An important issue to note is that the dynamics of international technology transfer have shifted significantly since 1995.[59] In particular, whereas the concerns in the pre-1995 period involved deeply asymmetric relationships between industrialized and developing countries (both in political power and technical capacity) and between multinational firms and developing country firms, the post-WTO landscape is very different. Barton points to a much larger role in the economy for FDI that is export based and is not simply focused on access to domestic markets and to a much more dispersed supply

[55] See e.g. Article V.2.c, Agreement between the Government of Canada and the Government of the Republic of South Africa on the Promotion and Protection of Investments, (signed 27 November 1995, not yet entered into force). Available at: http://unctad.org/sections/dite/iia/docs/bits/canada_southafrica.pdf

[56] See e.g. Article V.2.e, Agreement between the Government of Canada and the Government of the Republic of South Africa on the Promotion and Protection of Investments

[57] As do Driffield et. al "The multinational enterprise as a source of international knowledge flows: Direct evidence from Italy" 41 Journal of International Business Studies 350 (2010), noting that firms actively work to internalize and prevent spillovers from the activities of their affiliates, especially where these are wholly owned.

[58] See e.g. p357, Driffield et. al "The multinational enterprise as a source of international knowledge flows: Direct evidence from Italy" 41 Journal of International Business Studies 350 (2010).

[59] See p1, Barton, John "New Trends in Technology Transfer: Implications for National and International Policy", Issue Paper No. 18, ICTSD February 2007.

chain for many products that are internationally traded.[60] This shifts the incentives for multinational enterprises in terms of how and to whom they provide their technologies. The technical and scientific knowledge base in most developing countries has also been transformed, reflecting greater capacity for absorption and adaptation, while also providing a possible platform for R&D and production for foreign firms seeking competitive advantage for exports to other markets.[61] In addition, the distance between industrialized and developing countries, in terms of commercial information and capacity to take part in transactions has shrunk, increasing the ability for even small firms to engage in international trade and transactions. Domestic firms in developing countries also have increasingly greater integration into global markets, and are often significantly focused on export markets, meaning that the intellectual property standards and rules for market access to industrialized country markets have much more impact on policy decisions to imitate foreign technologies. Finally, publicly institutions and universities have become greater players on the commercial side of technological transactions.

At the very least, this new landscape implies a greater willingness and incentive for industrialized country multinationals to site facilities and use their best technologies in developing countries. It also suggests a disincentive for developing country firms to circumvent or imitate foreign technologies without authorization because they may be shut out of international markets, and in particular industrialized country markets. The increase in domestic technical capacity in developing countries, however, also suggests that technological catch up may be sped up, given a sufficient technological base and access to technologies at a reasonable price.

As a subsidiary of FDI, key market based channels for technology transfer are those that relate to joint ventures.[62] Joint ventures require sharing of technological products, processes and know how, simply to allow the venture to succeed. They work best when both partners bring know-how and capital to the table, although these can also include specialized access to contracting (in the case of preferential procurement policies) or goodwill etc. To the extent that the venture is time limited, that there is an exchange of

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[60] *Id.*

[61] *Id.*

[62] Maskus, Keith E. “Encouraging International Technology Transfer” ICTSD Issue Paper No. 7, May 2004. Available at: www.iprsonline.org/unctadictsd/docs/CS_Maskus.pdf (last visited 19 February 2014).

information, technology and personnel, the ability of the partners to move on after the joint venture is completed and having learned from each other is extremely useful. Joint ventures can be some of the most efficient tools for enabling learning by the domestic partners. To the extent that joint ventures between competitors are not the natural outcome of market behaviour, some countries have seen fit to condition foreign investment or market access in strategic economic sectors on the establishment of joint ventures. China has historically had such requirements, although there remains some disagreement as to whether these were successful in terms of enabling technology transfer.[63] The use of such measures however, may be restricted by the existence of provisions in bilateral investment treaties that specifically prohibit requiring that investments take place in the form of joint ventures by requiring national treatment in the establishment of investments.[64] This means that it is not possible to require that foreign investment in a particular sector take place only through joint ventures, without also applying that same standard to domestic firms.

The issue of the role that IP plays as a determinant of FDI is made problematic by discussions where we accept the assumption made by many studies that FDI is equivalent to technology transfer. As noted above, this may not be a safe assumption and especially in the context of regulatory structures explicitly aimed at restricting technology spillovers related to FDI, it may actually be erroneous. Caution should be exercised in evaluating studies and data using FDI as a proxy for technology transfer. However, in the context of examining the role that intellectual property protection plays, there may nevertheless be useful elements in that broader discussion of the determinants of international technology transfer. Some lessons can be drawn from the literature:

- Increased trade in technological goods can lead to spillovers in learning as well as enabling reverse engineering.[65] However, this

[63] See e.g. Buckley, Peter J. et al. “Inward FDI and host country productivity: evidence from China’s electronics industry” Transnational Corporations, Vol. 15, No. 1 (April 2006) arguing in favor of JVs and Kinoshita, Yuko, “Technology Spillovers through Foreign Direct Investment”. CERGE-EI Working Paper No. 39 (December 1998). Available at SSRN: http://ssrn.com/abstract=157614 (last visited 19 February 2014) arguing that FDI and JVs were not a significant factor in productivity growth from technology.

[64"] See e.g. e.g. Article II.3, Agreement between the Government of Canada and the Government of the Republic of South Africa on the Promotion and Protection of Investments, (signed 27 November 1995, not yet entered into force). Available at: http://unctad.org/sections/dite/iia/docs/bits/canada_southafrica.pdf

[65] p17, Maskus, Keith E. “Encouraging International Technology Transfer” ICTSD Issue Paper No. 7, May 2004. Available at: www.iprsonline.org/unctadictsd/docs/CS_Maskus.pdf (last

requires a significant learning capacity in firms and existing investment in R&D.[66] There is evidence from models and some empirical work that higher IP protection on average increases trade, but there is no noticeable impact on trade in high technology goods.[67]

- As discussed above, given the appropriate regulatory environment, FDI may also generate significant spillovers, both through formal mechanisms (licensing and actual transfer to vertically integrated subsidiaries) and informal mechanisms.[68] The evidence from literature is mixed,[69] but leans to at least a positive effect for those countries with significant learning capacity in firms and ongoing investment in R&D. This is especially true for vertical spillovers rather than horizontal for which the evidence is far more mixed.[70] However, increasing IPR protection does not seem to be linked to significant short term increases in FDI.[71]

visited 19 February 2014).

[66] p33, Maskus, Keith E. “Encouraging International Technology Transfer”

[67] p35, Fink, Carsten and Carlos Primo Braga, “How Stronger protection of Intellectual Property Rights affects Trade” in Maskus, Keith & Carsten Fink (eds.) *Intellectual Property and Development: Lessons from Recent Economic Research* (Washington D.C.: World Bank, 2005).

[68] p8, Fink, Carsten and Keith Maskus “Why we study Intellectual Property Rights and what we have learned” in Maskus, Keith & Carsten Fink (eds.) *Intellectual Property and Development: Lessons from Recent Economic Research* (Washington D.C.: World Bank, 2005).

[69] p18, Maskus, Keith E. “Encouraging International Technology Transfer” ICTSD Issue Paper No. 7, May 2004. Available at: www.iprsonline.org/unctadictsd/docs/CS_Maskus.pdf (last visited 19 February 2014).

[70] p18, Maskus, Keith E. “Encouraging International Technology Transfer” ICTSD Issue Paper No. 7, May 2004. Available at: www.iprsonline.org/unctadictsd/docs/CS_Maskus.pdf (last visited 19 February 2014).

[71] p8, Fink, Carsten and Keith Maskus “Why we study Intellectual Property Rights and what we have learned” in Maskus, Keith & Carsten Fink (eds.) *Intellectual Property and Development: Lessons from Recent Economic Research* (Washington D.C.: World Bank, 2005).

- Licensing can be a significant channel for technology transfer, provided there is sufficient absorptive capacity and capital in the licensee and surrounding firms.[72] However, the more the licensor is concerned that proprietary knowledge may leak, the less likely they are to engage in arms-length transactions and the more likely they are to license only to wholly owned subsidiaries or to joint venture structures over which they have significant control.[73] They may either refuse to license into the market or only license older technologies. Of course, the level of intellectual property protection also plays a role in a licensor's assessment of likely leakage of proprietary technologies. Theoretically, increased patent protection should make arm's length licensing to unaffiliated firms more likely.[74]

- Intellectual property provides a way to reduce the uncertainty and transaction costs associated with sharing of knowledge across borders and allows both providers and recipients to have secure predictable information about the nature and costs of the technology which is the subject of the exchange.[75] Intellectual property also enables the capture of a larger proportion of the spill-overs that would otherwise occur into an economy due to licensing, FDI, or trade, allowing and encouraging a firm to engage in transactions into an economy.[76] Of course, where the aim of policies is to maximize such spill-overs, there is a conflict between the desires of the foreign firm and those of the industrial policy of the domestic government. This suggests that need to also emphasize importance of appropriate regulatory structures to

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[72] p20, Maskus, Keith E. "Encouraging International Technology Transfer"

[73] *Id.*

[74] p114, Yang, Guifang and Keith Maskus "Intellectual Property Rights and Licensing: an Econometric Investigation" in Maskus, Keith & Carsten Fink (eds.) *Intellectual Property and Development: Lessons from Recent Economic Research* (Washington D.C.: World Bank, 2005).

[75] p14, Maskus, Keith "Differentiated Intellectual Property Regimes for Environmental and Climate Technologies", OECD Environment Working Papers, No. 17, OECD Publishing 2010.

[76] *Id.*

manage and encourage spillovers and to prevent anticompetitive behavior.[77]

The evidence for whether and in which circumstances higher intellectual property protection increases the likelihood of technology transfer remains unclear. At best, what can be said is that, where intellectual property is initially low and protection and enforcement increased, there is evidence that increased FDI takes place, especially in middle-income countries.[78] These findings do not seem to be replicated for low income countries, probably in large part due to the fact that they present largely uninteresting markets for rightholders, except for perhaps in the realm of pharmaceuticals and agriculture. However, as Maskus points out, there are also studies that have found little or no correlation between levels of patent protection and inward FDI even for upper middle income countries.[79] There does however appear to be a positive link between levels of IP protection and the complexity and level of technology involved in FDI or licensing: low levels of IP protection limit the transfer of high technology.[80] For countries at a low level on the technology value chain, still moving from imitation to innovation, this may not necessarily be a bad thing as the learning basis for building innovative capacity will need to be built on earlier more mature technologies before adoption of newer, more complex ones.

FDI is usually used as a proxy for technology transfer but the studies and data do not tell us a significant amount about the quality of that FDI, i.e. whether it results in best available technologies being transferred, the rate and scale of spill-overs, and whether the transfers are vertical (into directly owned subsidiaries) into joint ventures or horizontal (into independent

[77] p69, Maskus, Keith "The Role of Intellectual Property Rights in Encouraging Foreign Direct Investment and Technology Transfer" in Maskus, Keith & Carsten Fink (eds.) *Intellectual Property and Development: Lessons from Recent Economic Research* (Washington D.C.: World Bank, 2005).

[78] p17, Maskus, Keith E. "Encouraging International Technology Transfer" ICTSD Issue Paper No. 7, May 2004. Available at: www.iprsonline.org/unctadictsd/docs/CS_Maskus.pdf (last visited 19 February 2014).

[79] *Id.* at p24, *citing* Primo Braga, Carlos A. and Carsten Fink, "The Relationship between Intellectual Property Rights and Foreign Direct Investment," 9 Duke Journal of Comparative and International Law 163 (1998).

[80] p65, Maskus, Keith "The Role of Intellectual Property Rights in Encouraging Foreign Direct Investment and Technology Transfer" in Maskus, Keith & Carsten Fink (eds.) *Intellectual Property and Development: Lessons from Recent Economic Research* (Washington D.C.: World Bank, 2005).

entities). Maskus also cautions that the evidence suggests that it is the certainty of contract enforcement and IP enforcement rather than the strength of IP protection that seems to be determinative of decisions to engage in technology related market transactions.[81]

The data on FDI and capital goods generally does not allow one to see whether such transfers were to vertically integrated subsidiaries or joint ventures or to genuine third parties, and what the scope and speed of such transfers were, but the implication is clear. Reforms that, at the very least, ensure compliance with the TRIPS Agreement provide an incentive to outside companies to carry out FDI and sell capital and other technological goods, as well as license, in middle income countries. This may also encourage a shift from FDI to licensing, although it is not clear whether this increases arm's length transactions.[82] Data also show however that there is little or no positive effect for lower income or least developing countries, suggesting, as Maskus argues, that while intellectual property is a factor, it acts in conjunction with other market factors such as: purchasing power; market size; and domestic absorptive capacity.[83] If intellectual property protection was a key driver of FDI, then those countries that increased their intellectual property protection the most between 1990 and 1995 (largely sub-Saharan Africa) would have seen the largest relative increase in FDI share, which was not the case. In fact the region saw a significant drop in the share of FDI[84], losing out especially to countries like China, India and Brazil. The key is reliable, predictable enforcement rather than IP standards per se. Nevertheless, the level of intellectual property protection is a major factor in decisions relating to location of R&D facilities.[85] In specific sectors with low imitation thresholds, such as chemicals and pharmaceuticals, levels of IP also influenced FDI

[81] p22, Maskus, Keith E. "Encouraging International Technology Transfer" ICTSD Issue Paper No. 7, May 2004.

[82] p24, Maskus, Keith E. "Encouraging International Technology Transfer" ICTSD Issue Paper No. 7, May 2004.

[83] p17, Maskus, Keith "Differentiated Intellectual Property Regimes for Environmental and Climate Technologies", OECD Environment Working Papers, No. 17, OECD Publishing 2010.

[84] p54, Maskus, Keith "The Role of Intellectual Property Rights in Encouraging Foreign Direct Investment and Technology Transfer" in Maskus, Keith & Carsten Fink (eds.) *Intellectual Property and Development: Lessons from Recent Economic Research* (Washington D.C.: World Bank, 2005).

[85] *Id.* at p56

decisions, although these determined whether the nature of the FDI was to a direct and wholly owned subsidiary or to an affiliate or joint venture, rather than deterring FDI as a whole.[86]

Looking at licensing specifically, the empirical studies on licensing are few and far between and suffer from lack of access to information on the content of licensing contracts. The empirical case for a link between patent strength and licensing is mixed at best.[87] A proxy for licensing that is often used is volumes and flows of royalties and other licensing fees. Problematically, it is difficult to determine whether increases in such fees reflect actual increases in the number of transactions or simply reflect the growth in market power, and thus pricing power, that higher intellectual property standards and enforcement provide.[88] Nevertheless, the existing studies suggest a strong positive relationship between the level of intellectual property protection and levels of royalty flows.[89] This however, appears to hold true only where the initial levels of IPR protection were already relatively strong.[90] At least one study found that the effect was strongest regarding licensing to non-affiliates.[91] Another, focusing specifically on the 1995 – 2005

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[86] *Id.* at p60, Maskus, Keith "The Role of Intellectual Property Rights in Encouraging Foreign Direct Investment and Technology Transfer" in Maskus, Keith & Carsten Fink (eds.) *Intellectual Property and Development: Lessons from Recent Economic Research* (Washington D.C.: World Bank, 2005).

[87] See p111, Yang, Guifang and Keith Maskus "Intellectual Property Rights and Licensing: an Econometric Investigation" in Maskus, Keith & Carsten Fink (eds.) *Intellectual Property and Development: Lessons from Recent Economic Research* (Washington D.C.: World Bank, 2005). *See* also, p542, Kanwar, Sunil "Intellectual Property Protection and Technology Licensing: The Case of Developing Countries" 55 Journal of Law and Economics 539 No. 3 (2012).

[88] p25, Maskus, Keith E. "Encouraging International Technology Transfer" ICTSD Issue Paper No. 7, May 2004. Available at: www.iprsonline.org/unctadictsd/docs/CS_Maskus.pdf

[89] *Id.*

[90] p128, Yang, Guifang and Keith Maskus "Intellectual Property Rights and Licensing: an Econometric Investigation" in Maskus, Keith & Carsten Fink (eds.) *Intellectual Property and Development: Lessons from Recent Economic Research* (Washington D.C.: World Bank, 2005).

[91] *Id.*

post-TRIPS period found a positive relationship between outward royalty flows and levels of intellectual property protection.[92]

There is also some evidence that stronger patent rights do shift activity from FDI towards licensing, although much of that takes place towards local affiliates rather than horizontally, and is largely limited to countries with significant imitative capacity.[93] Data from a 2006 study done for the World Bank suggests that where countries do indeed strengthen patent rights, there appears to be a corresponding increase in licensing contracts by US firms to developing country firms.[94] This is in line with evidence suggesting a negative relationship between the level of imitative capacity and the willingness to license into a country.[95] There are also findings that suggest that, at least with respect to middle-income countries, strengthening patent protection increases the likelihood of licensing from industrialized countries.[96] The evidence for such a role in lower middle income and poorer countries appears to be zero. However, it is important to reiterate that none of these studies are able to determine whether royalty increases are a result of the exercise of market power conferred by higher patent protection or are evidence of an actual increase in licensing contracts as such. Even where such an increase in licensing contracts is found to occur, we have no information on the terms of such contracts which may inhibit spillovers beyond the licensee.

Higher patent protection may lead to an increase in the number of patents registered in a country, and where these are published and fully

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[92] *See* p543, Kanwar, Sunil "Intellectual Property Protection and Technology Licensing: The Case of Developing Countries" 55 Journal of Law and Economics 539 No. 3 (2012).

[93] Smith, Pamela J. "How Do Foreign Patent Rights Affect U.S. Exports, Affiliate Sales, and Licenses?" Journal of International Economics 55: 411-440 (2001) *cited by* p25, Maskus, Keith E. "Encouraging International Technology Transfer" ICTSD Issue Paper No. 7, May 2004. Available at: www.iprsonline.org/unctadictsd/docs/CS_Maskus.pdf

[94] Branstetter, Lee et. al. "Do Stronger Intellectual Property Rights Increase International Technology Transfer? Empirical Evidence from U.S. Firm-Level Data," Quarterly Journal of Economics, vol. 121, 321-349 (2006).

[95] p540, Kanwar, Sunil "Intellectual Property Protection and Technology Licensing: The Case of Developing Countries" 55 Journal of Law and Economics 539 (2012).

[96"] Hoekman, Bernard, Maskus, Keith E. and Saggi, Kamal, "Transfer of Technology to Developing Countries: Unilateral and Multilateral Policy Options" World Bank Policy Research Working Paper No. 3332. June 1, 2004. Available at: http://ssrn.com/abstract=610377 (last visited 19 February 2014).

disclosed they form a significant part of the learning environment. There is some evidence that such increases in patent registrations and publications lead to greater technology absorption in those countries where it takes place.[97] This suggests that the disclosure function of the patent system is a key policy lever for enabling technology transfer. However, the studies do not, as Maskus points out, take account of the higher costs and reduced spillovers for imitation that result from higher patent protection making it difficult to generalize an appropriate cost-benefit analysis.[98] These findings also do not examine the consequences of that licensing, namely how rapidly after such licensing does the technology licensed diffuse into the local economy, at what rate do spill-overs occur.

The discussion in this section points to at least an ambiguous judgment on the virtues of the higher intellectual property standards embodied in the TRIPS Agreement. While the necessity for intellectual property protection is clear, the existing information on whether this has led to domestic innovation FDI and technology transfer in developing countries suggests that TRIPS may not have been an optimal outcome for developing countries. Nevertheless, many developing countries participated in bilateral and regional free trade agreements and in the post-TRIPS era that led to them agreeing to higher intellectual property standards and to restrictions on regulatory freedom. The next section discusses the structural framework of international treaty making on intellectual property that should have militated against such further actions and yet still resulted in many agreeing to higher IP standards. We then go on to discuss what this implies for their further participation in intellectual property negotiating processes.

Part II Multilateralism, Bilateralism and Economic Development

Intellectual property is a solution to the problem of production of public goods. The aim is to provide sufficient incentive for private sector actors to invest in the generation of new knowledge and products, but to ensure that there is sufficient spill-over of knowledge during the life-time of the protection provided and beyond.[99] At this basic level, intellectual property policy is a

[97] p23, Maskus, Keith E. “Encouraging International Technology Transfer” ICTSD Issue Paper No. 7, May 2004. Available at: www.iprsonline.org/unctadictsd/docs/CS_Maskus.pdf (last visited 19 February 2014).

[98] *Id.* at p24

trade-off between present (static) anti-competitive costs and the generation of future technologies (dynamic cost).

Achieving a balance between static and dynamic efficiency is complex enough in a purely domestic market. The problem in a global market is that there may be very large international spill-overs.[100] In a system with low international trade in products and services, such spill-overs pose little problem as they will tend to equalize over time. If all countries provide protection for their own citizens but no protection for non-citizens, all countries will benefit from spill-overs from other countries, and innovators can simply block products from other countries at the border. However, in a system with a more than *de minimus* amount of international trade (both bilateral and multilateral), the ability to gain protection in multiple markets becomes increasingly important. In a system where there are asymmetries in innovative capacity and thus the number and distribution of rightholders, there is an incentive for countries that are net importers of knowledge and technologies to provide little or no protection for rightholders from other countries.[101] Countries that are net exporters have a strong incentive to seek protection in other countries and, at the very least, to be treated at the same level as nationals. This principle of national treatment is a fundamental element of international treaties on intellectual property.[102] It requires national level policies on spillovers that treat both domestic and foreign rightholders equally, but does not require that all countries have the same policies on how and when to take action to increase or reduce the level of spillovers into their domestic market. Of course, existing asymmetries in innovative capacity suggest that those countries that are net importers may have policies more focused on ensuring greater spill-overs as most of the rightholders in their economies will be foreign rightholders in many cases. This may be the strategy that was followed by so-called 'imitator' economies such as Japan and South Korea in the pre-WTO era and now China in the post-WTO era.

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[99] See p8, Maskus, Keith & Jerome Reichman (eds.) *International Public Goods and Transfer of Technology under a Globalized Intellectual Property Regime*, (Cambridge: Cambridge University Press, 2005).

[100] *Id.* at p9

[101] See p284, Maskus, Keith E. and Jerome H. Reichman, "The Globalization of Private Knowledge Goods and the Privatization of Global Public Goods" 7 Journal of International Economic Law 279 (2004).

[102] See e.g. Article 2 of the Paris Convention for the Protection of Industrial Property; Article 3 of the TRIPS Agreement.

Net exporter countries have an incentive to seek not just national treatment, but intellectual property protection on a par with that provided to firms in their home markets, especially with respect to policies that increase spillovers and enable faster learning by potential competitors. This dynamic between net exporter countries and net importer countries results in actions taken by some countries that reduce or negatively affect the scope and exercise of intellectual property rights, as part of a broader industrial policy framework. These actions can be targeted at specific technologies and sectors, or can sometimes be economy-wide. They can be targeted at products, or can be targeted at the knowledge itself.

This back and forth on basic national treatment and harmonization is the fundamental dynamic underlying most international intellectual property norm-setting. Beginning with the Berne Convention[103] and the Paris Convention[104] the pattern was set of treaties which required both national treatment and established a minimum floor of protection (above which countries were free to increase but not decrease protection). With the establishment of the International Bureau (*Bureaux Internationaux Réunis pour la Protection de la Propriété Intellectuelle)* and later the World Intellectual Property Organization, a series of revisions to the Berne Convention and the Paris Convention continued to expand the nature and scope of protection provided by the treaties as well as establishing new treaties on related subject matter. These continued a slow movement towards greater harmonization and higher levels of intellectual property protection. Much of this movement was halted or significantly slowed down by the entry into international intellectual property policymaking of newly independent developing countries who inherited their membership in BIRPI and later WIPO, and came to believe that the international economic system, including the intellectual property framework posed a barrier to their economic development, including by blocking access to technology.[105] In negotiations, they sought to increase their

[103] Berne Convention for the Protection of Literary and Artistic Works of September 9, 1886, completed at Paris on May 4, 1896, revised at Berlin on November 13, 1908, completed at Berne on March 20, 1914, revised at Rome on June 2, 1928, revised at Brussels on June 26, 1948, and revised at Stockholm on July 14, 1967 (with Protocol regarding developing countries) ("Berne Convention") *in force* 29 January 1970, 828 *United Nations Treaty Series* 223.

[104] Paris Convention for the protection of industrial property of March 20, 1883, as revised at Brussels on December 14, 1900, at Washington on June 2, 1911, at The Hague on November 6, 1925, at London on June 2, 1934, at Lisbon on October 31, 1958, and at Stockholm on July 14 1967 ("Paris Convention") *in force* 26 April 1970, 828 *United Nations Treaty Series* 107.

[105]" Declaration for the Establishment of a New International Economic Order, United Nations General Assembly document A/RES/S-6/3201 of 1 May 1974.

flexibility to ensure greater availability of technology in their domestic markets, and to reduce the barriers that they believed intellectual property posed for such access. The Declaration on a New International Economic Order (NIEO) established the principle of special and differential treatment for least-developed and developing countries,[106] and the signatories committed to:

> Giving to the developing countries access to the achievements of modern science and technology, and promoting the transfer of technology and the creation of indigenous technology for the benefit of the developing countries in forms and in accordance with procedures which are suited to their economies;[107]

The NIEO did not succeed in its broader goals and its principles were not included in the structure of international IP policymaking. Forum shifting of the intellectual property issue finally resulted in intellectual property being address in the framework of the Uruguay Round negotiations for the WTO leading to the establishment of the TRIPS Agreement.

TRIPS reflected the consensus that had developed since the NIEO, that the best framework for ensuring innovation and access to technology for developing countries was voluntary, market based transactions between firms and increasing domestic absorption and creative capacity. The basic underlying premise is that interventions must address market failures in IP-protected intangibles and may not simply be based on industrial or public policy goals.

TRIPS implementation is required of WTO members[108] with expected pay-offs in respect of market access and FDI. For developing countries, a significant element was market access in agriculture, as well as industrial goods and services. For the US and Europe, greater scope for intellectual property protection subject to international dispute settlement was a critical element of the Uruguay Round.[109] A broad agreement such as the one that came out of the Uruguay Round is an inevitable compromise balancing the interests of multiple countries and multiple business actors. The negotiations were complex and involved almost all economic sectors in most countries.

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[106] Para 4(c), Declaration for the Establishment of a New International Economic Order, United Nations General Assembly document A/RES/S-6/3201 of 1 May 1974.

[107] Para 4(p), Declaration for the Establishment of a New International Economic Order, United Nations General Assembly document A/RES/S-6/3201 of 1 May 1974.

[108] Although least-developed country members have been given several additional years to comply.

Some delegations were able to be present in all elements of negotiations, many others were not.[110] The final content of the negotiations was really only able to be assessed in the period after signature and ratification. It is in that period that many developing countries began to realize what it was they had truly signed up to in the TRIPS Agreement. In particular, in patent-related discussions regarding public health, the case brought by the group of international pharmaceutical companies against South Africa[111], raised international awareness of the restrictions that TRIPS placed on countries to address major public health issues.[112] In multilateral fora, developing countries began to react against higher intellectual property standards. They blocked further harmonization initiatives such as the Substantive Patent Law Treaty[113] at WIPO, delayed others such as the WIPO Treaty on the Protection of Broadcasting Organizations[114], and kept issues such as such as intellectual property enforcement off the WTO agenda. They began to seek changes in existing international norms at the WTO and at WIPO that they believed would be more favorable to developing countries. At the WTO, this resulted in the Doha Declaration on TRIPS and Public Health[115], and ongoing proposals for

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109 See para 3.11, "The Uruguay Round" European Commission - MEMO/94/24, 12/04/1994. Available at: http://europa.eu/rapid/press-release_MEMO-94-24_en.htm (last visited 19 February 2014).

110 See p4, CUTS "Developing Country Participation in the GATT: A Reassessment" CUTS Center for International Trade, Economics and Environment Briefing paper, August 2009.

111" Notice of Motion in the High Court of South Africa (Transvaal Provincial Division), Case
No. 4183/98.

112 See e.g. MSF "South Africa: Big Pharma Backs Down" MSF International Activity Report 2001. Available at: https://www.doctorswithoutborders.org/publications/ar/report.cfm?id=1204; CPTech "Court Case Between 39 Pharmaceutical Firms and The South African Government" Available at: http://www.cptech.org/ip/health/sa/pharma-v-sa.html (last visited 19 February 2014).

113 See WIPO "Draft Substantive Patent Law Treaty" Available at: http://www.wipo.int/patent-law/en/draft_splt.htm (last visited 19 February 2014).

114 See WIPO "Broadcasting Organizations" http://www.wipo.int/copyright/en/activities/broadcast.html (last visited 19 February 2014).

115" Declaration on the TRIPS Agreement and Public Health, WT/MIN(01)/DEC/2 (2001)

disclosure of origin of genetic resources.[116] At WIPO, this included beginning negotiations for treaties on the protection of Traditional Knowledge and Folklore,[117] and the establishment of the WIPO Development Agenda. The WIPO Development Agenda is of particular note because it represents both a shift in the view of the institutional role of WIPO but also a broader philosophical shift in the view of the role of intellectual property protection in international economic development discussions.

The Development Agenda was the outcome of several years of pressure by civil society and developing countries raising serious concerns regarding the implications of WIPO activities for sustainable development. Negotiations finally concluded in October 2007. The Development Agenda consists of 45 recommendations in 6 clusters:

- Cluster A: Technical Assistance and Capacity Building
- Cluster B: Norm-setting, flexibilities, public policy and public domain
- Cluster C: Technology Transfer, Information and Communication Technologies (ICT) and Access to Knowledge
- Cluster D: Assessment, Evaluation and Impact Studies
- Cluster E: Institutional Matters including Mandate and Governance
- Cluster F: Other Issues

The Agenda reflects the key principle of special and differential treatment for developing countries: that intellectual property cannot be a one size fits all proposition and must be accommodated to the development status and needs of each country. This applies to technical assistance but also norm-setting.[118] Technical assistance and norm-setting are required to take into account full use of TRIPS flexibilities and not simply implementation of the highest IP standards.[119] WIPO is also explicitly required to take into account the broader international sustainable development framework, including the

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[116] WTO “Draft decision to enhance mutual supportiveness between the TRIPS agreement and the Convention on Biological Diversity: Communication from Brazil, China, Colombia, Ecuador, India, Indonesia, Peru, Thailand, the ACP group, and the African group” **TN/C/W/59,** 19 April 2011.

[117] WIPO, “Intergovernmental Committee” http://www.wipo.int/tk/en/igc/ (last visited 19 February 2014).

[118] DA recommendation 15

[119] DA recommendation 14 and 17

Millennium Development Goals. The Development Agenda has been embraced by both member states and the institution and is transforming the basis and goals on which WIPO works. The most recent and concrete example of this is the recent conclusion of the Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired, or Otherwise Print Disabled[120] in June 2013. The treaty was the first of its kind to be devoted to an agreement on exceptions and limitations to intellectual property (in this case copyright) and that explicitly referenced human rights[121] (in particular the rights of the disabled) and the Development Agenda[122] in its preamble.

The Development Agenda gains even more importance in light of the Cooperation Agreement with the WTO in 1995 that WIPO in charge of providing technical assistance for TRIPS implementation to developing country members of the WTO. In fact according to Article 4 of the WTO–WIPO Cooperation Agreement:

> The International Bureau [WIPO] shall make available to developing country WTO Members which are not Member States of WIPO the same legal–technical assistance relating to the TRIPS Agreement as it makes available to Member States of WIPO which are developing countries. The WTO Secretariat shall make available to Member States of WIPO which are developing countries and are not WTO Members the same technical cooperation relating to the TRIPS Agreement as it makes available to developing country WTO Members.[123]

Under the agreement WIPO offers its expertise in the area of intellectual property law to WTO and non-WTO Member States so as to ensure a

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120. Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired or Otherwise Print Disabled signed at Marrakesh June 27, 2013 (not yet in force)

121 "*Recalling* the principles of non-discrimination, equal opportunity, accessibility and full and effective participation and inclusion in society, proclaimed in the Universal Declaration of Human Rights and the United Nations Convention on the Rights of Persons with Disabilities"

122 "*Recalling* the importance of the Development Agenda recommendations, adopted in 2007 by the General Assembly of the World Intellectual Property Organization (WIPO), which aim to ensure that development considerations form an integral part of the Organization's work"

123 The WTO–WIPO agreement can be found at http://www.wto.org/english/tratop_e/trips_e/wtowip_e.htm (last visited 19 February 2014).

successful implementation of the TRIPS Agreement. The nature and content of such assistance is crucial to whether developing countries can implement the TRIPS Agreement in ways that are favorable to their development and leave sufficient flexibility to address issues such as public health, access to information and misappropriation of traditional knowledge and folklore.

Philosophically, in multilateral fora developing countries have succeeded in transforming the IP discourse when they have connected the pure IP issue, not to trade issues as happened in the TRIPS Agreement but to other frameworks such as human rights and, biodiversity. This was the case with public health, and with traditional knowledge. The key goal of the Development Agenda is to create a framework for norm-setting, technical assistance and policy research that focuses on the needs of developing nations in the broader framework of sustainable development.[124] The Development Agenda drew from several developments in international fora regarding sustainable development, including the re-invigoration of a rights-based approach to economic development issues. This meant not only revisiting the 'right to development' debate begun during the NIEO debate, but also developing the framework on economic social and cultural rights. This saw the development of the framework on Article 15 (1) of the International Convention on Economic Social and Cultural Rights which includes "*The Right to Enjoy the Benefits of Scientific Progress and its Application (ICESCR Article 15(1)(b))*

The scope and full legal meaning of Article 15(1)(b) has yet to be articulated. While conceptually attractive, there is very little literature on the relation of this article to technology transfer. In addition to analyzing its text, it must read in the context of Article 15(1) as a whole, which also establish rights to benefit from one's own creations, which has sometimes been read as a 'right' to intellectual property.[125] More extensively developed has been the issue of the right to health and its relationship to the TRIPS Agreement. The development and push for the Doha Declaration on TRIPS and Public Health

[124] A Koury Menescal, 'Changing WIPO's Ways? The 2004 Development Agenda in Historical Perspective' (2005) 8 *J Of World Intellectual Property*, 761.

[125]" The Committee on Economic, Social and Cultural Rights views the provisions as a unitary set, despite the fact that it has chosen to elaborate different sets General Comments to address each one. Thus it requires States to recognize the right of everyone:

(a) To take part in cultural life;

(b) To enjoy the benefits of scientific progress and its applications;

(c) To benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.

drew on the rights-based approach to health that had developed in the human rights bodies in terms of requiring states to deliver health services and goods to their citizens. The right to access medicines at an affordable price was first established in the Committee on Economic, Social and Cultural Right's General Comment 14 on the right to the highest attainable standard of health. This was further elaborated by the Committee in its examination of country reports especially looking at the new measures in the post-TRIPS bilateral free trade agreements. In particular, as civil society brought forward concerns regarding TRIPS-plus provisions in bilateral FTAs[126] the Committee raised concerns about the ways that signing such FTAs could negatively affect delivery on the right to health.[127] These were concerns that harked back to concerns regarding the TRIPS Agreement expressed by Paul Hunt, the Special Rapporteur on the Right to Health in his 2004 report to the Commission on Human Rights, discussing concerns that TRIPS may negatively impact access to medicines.[128]

The human rights discourse also served as a useful framing for developing countries who argued that their obligations to deliver on the right to health could not and should not be interfered with by the TRIPS obligations. While powerful as a rhetorical tool, and led to the adoption of the Doha Declaration on TRIPS and Public Health as well as pushes to address neglected diseases at the WHO, this framing did not result in any significant amendment of the TRIPS Agreement obligations on patent protection. While the Doha Declaration was an important milestone, during the negotiations, developed countries pushed hard to limit its scope, losing out on limiting the scope of disease coverage, but largely winning in limiting the agreement largely to Article 31 compulsory licensing issues rather than a broader

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The Committee is progressively addressing the article and has produced two general comments on 15(1)(a) and (15(1)(c).

[126] See e.g. 3DThree ""Trade-related intellectual property rights, access to medicines and human rights – Morocco "April 2006, submission to the Committee on Economic Social and Cultural Rights

[127] See E.g. para 29, OHCHR "CONSIDERATION OF REPORTS SUBMITTED BY STATES PARTIES UNDER ARTICLES 16 AND 17 OF THE COVENANT: Concluding observations of the Committee on Economic, Social and Cultural Rights – MOROCCO" , .

[128] See para. 43, ECOSOC "ECONOMIC, SOCIAL AND CULTURAL RIGHTS - The right of everyone to the enjoyment of the highest attainable standard of physical and mental health - Report of the Special Rapporteur, Paul Hunt – Addendum -Mission to the World Trade Organization" E/CN.4/2004/49/Add.1, 1 March 2004

agreement expanding the scope of uncompensated exceptions and limitations under article 30. Nevertheless, the human rights discourse and the Development Agenda have served to transform the nature and scope of multilateral policy-making on intellectual property. The system is no longer solely focused on what has been called the "upward ratchet", of ever increasing intellectual property standards.[129] Integrated within a broader discussion and framework, multilateral IP fora have become contested arenas where the evidence (empirical and otherwise) for the effectiveness and utility of differing levels of intellectual property is in play.

The Unfinished business of the TRIPS Agreement: Intellectual property in Bilateral and regional FTAs

The significant shift in the framing of intellectual property in international IP – related fora should not blind us to the fact that TRIPS standards have become the floor for international intellectual property protection. However, the developments at WIPO and the WTO also point to another crucial viewpoint on the TRIPS Agreement. Whereas many developing countries viewed it as going too far, major industries in the US and Europe, pharmaceutical and entertainment in particular, viewed the TRIPS Agreement as not going far enough. The broader critique was that the TRIPS Agreement left too much flexibility in its standards, and that it left out crucial subject matter. For example, the TRIPS Agreement did not succeed in limiting the grounds for compulsory licenses, nor did it clearly establish a requirement for data exclusivity for test data information. For Europe, the key issue of protection of geographical indications remained incomplete. These dissatisfactions are reflected in the content of the bilateral and regional free trade agreements that proliferated in the aftermath of the WTO Agreement.

The perceived gap in TRIPS standards, combined with the multilateral push back by developing countries led to a significant expansion in bilateral and regional free trade agreement negotiations, now with added intellectual property chapters and provisions. The post-TRIPS negotiations were modeled on the Uruguay Round negotiations themselves, providing for comprehensive multi-sector, multi-issue negotiations based on the single undertaking principle – that all issues were negotiated as part of a single bargain and could not be concluded separately. This ensured that a similar dynamic in terms of capacity to participate, as well as in terms of bargaining across issued would prevail. Sometimes many of these agreements addressed investment as well, although many bilateral investment

[129] See Sell, S "The Global IP Upward Ratchet, Anti-Counterfeiting and Piracy Enforcement Efforts: The State of Play". PIJIP Research Paper no. 15. American University Washington College of Law, Washington, DC, 2010.

agreements were concluded separately as investment has historically been treated as a separate issue from trade.

The move to bilateral and regional FTAs had very specific goals in mind. The US took the first steps and signed a significant number very early on, but Europe followed suit very quickly. Tellingly, the majority of these involved asymmetric negotiations between the major economy and one or more trading partners usually those who were in already some form of preferential and non-reciprocal trade arrangement. Generally, the developed country used a template for the intellectual property provisions. For the US, the areas pursued by these FTAs included:

Patent

- Clinical test data exclusivity[130]
- Patent term extension due to regulatory delay
- Limiting the use of compulsory licensing to working requirements, emergencies, government use and addressing anti-competitive practices[131]
- Patent term extension for delays in pharmaceutical marketing approval[132]

Copyright

- Temporary reproductions, even in computer memory were to be treated as reproductions within the meaning of copyright[133]
- Criminalization and protection of technological protection measures to include prohibition of production or trade in circumvention tools[134]
- Extension of term to life of the author plus 70 years[135]

Trademarks

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[130] Article 4.19, US-Jordan FTA

[131] Article 4.20 US-Jordan FTA

[132] Article 4.23 US-Jordan FTA

[133] Article 4.10, US-Jordan FTA; Article 17.4(1) US-Australia FTA

[134] Article 4.13, US-Jordan FTA

[135] Article 17.4(4) US-Australia FTA

- Protection for well-known marks beyond confusion[136]
- Extension of subject matter to sounds and scents[137]
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Enforcement

- Enabling ex officio action in seeking criminal liability for IP infringement
- Expanding the definition of commercial use

The US was historically, the largest user of FTAs. As of November 2013, the US had bilateral and regional free trade agreements in force with 20 countries.[138] These include developing countries such as: CAFTA-DR (Costa Rica, Dominican Republic), Chile, Colombia, El Salvador, Guatemala, Honduras, Jordan, Morocco, Nicaragua, Panama, Peru, and Singapore.[139] The US is also conducting negotiations with significant IP components with several countries in the pacific region with the aim of creating a Trans-pacific Partnership (TTP) Agreement.[140] Negotiations have also begun on a Transatlantic Trade and Investment Partnership (TTIP) Agreement with the European Union, also with intellectual property components.[141] However, there has been little or no movement by the US towards negotiating significant agreements with large developing countries such as South Africa, Brazil, India or China. The TPP conspicuously excludes China from its ambit, while including almost a significant number of its regional neighbours.[142]

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[136] Article 4.8, US-Jordan FTA

[137] Article 17.2(2), US-Australia FTA

[138] See http://www.ustr.gov/trade-agreements/free-trade-agreements (last visited 19 February 2014).

[139] *Id.*

[140] See http://www.ustr.gov/tpp (last visited 19 February 2014).

[141] See http://www.ustr.gov/ttip (last visited 19 February 2014).

[142] Australia, Brunei Darussalam, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, Vietnam, and the United States.

The EU has also pursued FTAs in the post-WTO phase but with a slightly differing pattern. The relationship with other developing countries had largely been managed through the African, Pacific and Caribbean group process, within large scale agreements addressing political, human rights, trade and aid issues. Thus the existing set of agreements that the EU had with developing countries were based on non-reciprocal asymmetric obligations. However, that changed in 2006. Ending an informal moratorium[143], the EU began in late 2006 to increase its activity in negotiating bilateral trade agreements. The European Commission explicitly included a TRIPS-Plus mandate in its trade goals, stating that, "[t]he EU should seek to strengthen IPR [Intellectual Property Right] provisions in future bilateral agreements... ."[144] The EU applied this principle in new negotaitons for Economic Partnership Agreements (EPAs) with the 76 member African, Caribbean and Pacific (ACP) group of countries. These agreements aimed to significantly change the traditional non-reciprocal trade preference relationship that existed between the EU and ACP group of countries.[145]

The EU pursued higher intellectual property standards by asking countries to accede to the WIPO Copyright Tretay and the WIPO Peformances and Phonograms Treaty; [146] sui generis protection for non-original databases; specific protection for technological protection mechanisms; accession to UPOV 1991, and protection of geographical indications beyond wines and spirits. The largest focus was on enforcment, seeking standards that were the same as those in Europe.[147] While negotiations began in 2006, the only agreement signed and in force to date is that with the CARIFORUM group of countries.[148] That agreement reflect the intensive focus of the EU on increasing enforcement standards. All other

[143] See p11, Evenett, S "Global Europe: An Initial Assessment of the European Commission's New Trade Policy" *Journal Aussenwirtschaft*, Volume 61, Number IV, 2007 (Available at http://www.imd.org/uupload/EvianGroup/PUBLICATIONS/1456.pdf (last visited 19 February 2014).

[144] European Commission "Global Europe: competing in the world" EC Policy Review, October 4, 2006 (available at http://ec.europa.eu/trade/issues/sectoral/competitiveness/global_europe_en.htm (last visited 19 February 2014).), Section v.

[145] For more detail on the aims and goals of these negotiations see D Shabalala "The European Approach to IP in European Partnership Agreements with the African, Caribbean and Pacific Group of Countries" (CIEL, April 2007). Available at: http://www.ciel.org/Publications/EU_EPAs_Draft_18Apr07.pdf) (last visited 19 February 2014).

[146] Draft EPA text for West Africa Chapter 2, Section 2, Article 6

member groups of the ACP have refused to sign full agreements with intellectual property and other rules chapters, relying on interim agreements that addressed only goods issues.

Unlike the US, the EU has also sought to negotiate agreements with larger developing countries, pursuing negotiations with India[149] (still ongoing as of November 2013) with intellectual property a major sticking point; and with Mercosur[150], although these negotiations have been largely moribund. Again, there has been no attempt to pursue such an agreement with China.

The pattern of negotiations and failure of trade negotiations reflects the pattern of asymmetric power in negotiations on intellectual property between developed and eveloping countries. To the extent that countries in the ACP, in Latin America, and in South East Asia have signed such agreements, many have done so to preserve market access that had previously been made available on a non-reciprocal basis and was now being subject to the reciprocity principle set up by the WTO. The US and the EU have found it much harder to persuade countries that were not dependent on preferential market access to participate. Thus bilateral and regional free trade agreements may not have had the outcome that may have been intially hoped for. However, for those countries that have signed bilateral and regional free trade agreements, the effect goes beyond simply extending privileges to those countries with whom they have signed such agreements. The TRIPS Agreement contains no exceptions to non-discriminatory Most Favored Nation treatment for regional free trade agreements, thus countries that sign up to such agreements are obligated to extend their new standards to all WTO members automatically. These agreements have the effect of mulitlateralizing bilateral obligations on intellectual property in fora that are external to those such as the WTO and WIPO, where developing countries have succeeded in moderating and reframing the intellectual property and

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[147] See D Shabalala “The European Approach to IP in European Partnership Agreements with the African, Caribbean and Pacific Group of Countries” (CIEL, April 2007). Available at: http://www.ciel.org/Publications/EU_EPAs_Draft_18Apr07.pdf) (last visited 19 February 2014).

[148] See http://ec.europa.eu/trade/policy/countries-and-regions/regions/caribbean/ (last visited 19 February 2014).

[149] See http://ec.europa.eu/trade/policy/countries-and-regions/countries/india/ (last visited 19 February 2014).

[150] See http://ec.europa.eu/trade/policy/countries-and-regions/regions/mercosur/ (last visited 19 February 2014).

development discourse. Despite this however, it is clear that many developing countries have resisted this forum shopping on intellectual property.

Outside of the negotiations involving developing countries in preferential trade arrangements who agreed to new reciprocal arrangements, developed countries began to run into difficulties in their pursuit of higher and stronger intellectual property standards. For the EU, this has been evident in its pursuit of agreements with other ACP regional groups outside of the Caribbean. These have resisted and continue to resist the addition of non-core 'rules' issues such as intellectual property in the negotiations. Thus negotiations with the West Africa, the Pacific, the Eastern and South African group, all point to a failure of inclusion of intellectual property.

For the US, outside of its traditional sphere of economic influence in preferential agreements in South and Central America, there has been little progress in bilateral agreements with IP provisions. The US has not concluded an agreement with IP provisions with any sub-Saharan country, with any South-Asian country and in the Asia-pacific region, with one exception, namely Singapore.[151]

Neither the US nor the EU has been successful in persuading the major emerging economies of Brazil, India and China to agree to higher intellectual property standards in bilateral negotiations. The EU's negotiations with India, which started in 2007, came to a standstill over IPRs, particularly with regard to the contentious issue of protection for pharmaceutical products and the exclusivity over clinical trial test data desired by the EU. The negotiations were officially expected to conclude in 2012, but that timeline proved too optimistic.[152] The key priority of India's strong domestic pharmaceutical industry and civil society is access to affordable medicines, as guaranteed by the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) and the 2001 Doha Declaration on the TRIPS Agreement and Public Health. India is also asking the EU to screen the validity of European patents against prior use in traditional Indian medicine and knowledge related to Indian genetic resources. For the moment it appears that no agreement on intellectual property will be reached. The US has continued to pursue regional bilateral IP standards as can been in the newly launched, negotiations for a Trans-Pacific Partnership Agreement involving Australia, Brunei Darussalam, Canada, Chile, Japan, Malaysia,

[151"] The United States-Singapore Free Trade Agreement was signed on 6 May 2003 and implemented by both countries by 1 January 2004.

[152"] See http://ec.europa.eu/trade/creating-opportunities/bilateral-relations/countries/india/ (last visited 19 February 2014).

Mexico, New Zealand, Peru, Singapore, the United States, and Vietnam. Notably absent from this list is China.

The absence of China from the present rounds of bilateral and regional free trade agreements, suggests one major impetus for nevertheless pursuing bilateral and regional free trade agreements: the encirclement of China. Innovative IPR-driven Asia-Pacific economies (Japan, South Korea, Singapore), Australia, New Zealand, the US and the EU are all seemingly engaged in a policy of 'encirclement' of China, i.e. ensuring that China's major and regional trading partners are committed to providing more effective IP enforcement, especially with regard to border controls and customs controls aimed at preventing trade in and importation of pirated and counterfeit goods. It is in this context that initiatives such as the TPP and ACTA (discussed further below), are relevant.

The Limits of Bilateralism and the rise of Plurilateralism?

The limits of the bilateral approach have led to some new developments in international IP approaches. The Anti-Counterfeiting Trade Agreement (ACTA) represented the first plurilateral IP specific negotiations without any connection to other negotiations or a single undertaking, outside WIPO and the WTO. ACTA was in many ways a forum-shifting exercise born out of the frustration over the lack of progress on the fight against piracy and counterfeiting at the WTO.[153] Countries such as Brazil, India and China had systematically blocked the topic of intellectual property enforcement from the agenda of the WTO Council for TRIPS. Equally, at WIPO issues of enforcement are discussed merely at the level of an advisory committee.[154] ACTA can also be seen as a consolidation of provisions related to the enforcement of intellectual property rights contained in the parties' bilateral and regional free trade agreements; in fact all ACTA states were connected through FTAs in one way or another.[155]

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[153] Kaminski, M. Recent Development: The Origins and Potential Impact of the Anti-Counterfeiting Trade Agreement (ACTA), 34 *Yale Journal of International Law* 247 (2009).

[154] WIPO 'Mandate of WIPO Advisory Committee on Enforcement', WO/GA/28/7, www.wipo.int/meetings/en/doc_details.jsp?doc_id=14890

[155] See www.bilaterals.org (last visited 19 February 2014).

The ACTA negotiations were concluded, after 11 rounds, in October 2010 in Tokyo. The final text was published on 3 December 2010.[156] On 1 October 2011, Australia, Canada, Japan, Morocco, New Zealand, South Korea, Singapore and the United States signed the agreement during a ceremony in Tokyo. On 27 January 2012, twenty-two EU member states (UK, Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Poland, Portugal, Romania, Slovenia, Spain, and Sweden) signed ACTA. During the negotiations, many critical questions from within ACTA countries had been raised over to the lack of transparency and the nature and content of the treaty. This extended to the European Parliamnet which rejected the treaty on 4 July 2012 by 478 votes to 39, with 165 abstentions. Controversy persists in the US due to the failure to seek Senate ratification. The Obama administration characterised ACTA as a 'sole executive agreement', which means that implementing legislation or changes to the national regime are not foreseen.

Third countries were vocal in their rejection of ACTA and its genesis. Paradoxically, the treaty prompted the tabling of the issue of enforcement on the agenda of in the TRIPS Council for the first time. The Indian delegation remarked in October 2009 that: "the ACTA agreement was being negotiated in secrecy and with the exclusion of a vast majority of countries, including developing countries and LDCs."[157] In June 2010, China, India and Brazil commented upon draft versions of ACTA,[158] stating that ACTA was inconsistent with the letter and spirit of the TRIPS Agreement. In October 2010,[159] again in the TRIPS Council, India complained about the fact that ACTA bypassed the multilateral process and completely ignored the interests of other WTO members.[160] India also voiced its concern over the nature and scope of ACTA

[156] See http://register.consilium.europa.eu/doc/srv?l=EN&t=PDF&gc=true&sc=false&f=ST%2012196%202011%20INIT (last visited 19 February 2014) for the official text.

[157] 'Minutes of Meeting Held In The Centre William Rappard on 27-28 October en 6 November 2009' Council on Trade-related Aspects of Intellectual Property, IP/C/M/61, 12 February 2010, par. 264.

[158] 'Minutes of Meeting Held in the Centre William Rappard on 8-9 June 2010' Council on Trade-related Aspects of Intellectual Property, IP/C/M/63, 4 October 2010, par. 252.

[159] 'Minutes of Meeting Held in the Centre William Rappard on 26-27 October 2010' Council on Trade-related Aspects of Intellectual Property, IP/C/M/64, 17 February 2011.

[160] *Id.*

with regard to transit procedures, injunctions, and the way in which treaty re-interprets the term ‘commercial scale’.

The failure of ACTA is twofold: it failed to convince domestic constituencies even in major proponent countries of its value and it failed to convince key third parties of its usefulness. It also suffered from a structural problem: the failure to include the emerging market countries that are perceived by European and US stakeholders to be the main sources of counterfeit products. It is not clear what incentive such emerging markets would have had to particpate or accede to ACTA. In a single issue negotiation such as ACTA they would not gain any further access or guarantees in other sectors and would in any case, benefit from the existing legal provisions in ACTA members. Unlike for goods, there is no regional or FTA exception (GATT Article XXIV) in the TRIPS Agreement. Therefore, ACTA Parties would not have been able to discriminate against non-ACTA WTO parties in their implementation of their IP obligations unless they could clearly describe those provisions as unequivocally TRIP-plus obligations that are not covered by the national treatment and MFN clauses in TRIPS Articles 3 and 4. This would however be very difficult as those articles apply to protection of intellectual property subject matter covered by the agreement. Non-ACTA parties would therefore already benefit from the enforcement that ACTA parties would have been obliged to provide for their citizens.

Conclusion: New venues, old venues - Multilateralism and a return to WIPO?

The difficulties encountered by industrialized countries in expanding intellectual property provisions through bilateral and regional agreements appear to have exhausted to a certain extent the alternative venues for increasing and harmonizing intellectual property. The growth of inter-linkages with other regimes such as human rights, biodiversity, and climate change suggest that a pure focus on increasing rights may no longer be viable. The resistance of many developing countries, even in bilateral and regional free trade agreements, means that the international discourse on intellectual property and development may have permanently shifted, whatever forum intellectual property is raised in. The failure of ACTA suggests that the domestic constituency for greater protection of intellectual property in developed countries may no longer be as monolithic and influential as it once was. The increasing internal debate in industrialized economies on the relationship between intellectual property and economic, social and human rights has also played a part in refashioning how intellectual property is

pursued by these countries. It may be that the future holds a return to multilateral fora, where intellectual property standards may now be discussed on a new basis, reflecting the historical principles of special and differential treatment for developing countries, addressing new subject matter of interest and demand for developing countries, and above, all, the enshrining of the principle of flexibility and policy space in new treaties. This requires the recognition of existing policy space and the creation of new policy space, focusing on the process of graduated increases in protection related to stage of development, as occurred with Korea, Taiwan, Singapore and Japan. This means a stronger focus on the interaction between markets and the creation of appropriate market conditions under which intellectual property protection can be seen to contribute positively.

The flexibilities of the TRIPS Agreement can be used to allow WTO members to develop at their own pace. IPRs can serve to create a market for intellectual and industrial creativity and serve as a conduit for technology transfer, while also being adjusted and modified to address the fact that more substantive IPRs do not automatically lead to more investment or innovation and that more active interventions may be required. Market conditions in developing countries are often marred by corruption, lack of transparency, market access and human capital, and the inability to absorb technology and knowledge. Inclusion of developing countries in the world knowledge economy, however, does offer opportunities for development. This is supported by the economic progress in developing economies like India, China and Brazil. Effective enforcement and the establishment of minimum IPR standards form the conditions for including developing economies in the global marketplace. However active policies ensuring sufficient learning and spillovers are also required. Thus constant calibration and balancing are likely to be the future of intellectual property policy-making in developing countries and multilateral fora, rather than the pursuit of purely higher intellectual property standards.